

REMARKS

The following is intended as a full and complete response to the Office Action dated February 2, 2007, having a shortened statutory period for response set to expire on May 2, 2007. Claims 1-20 were examined. The Examiner rejected claims 1-20 under 35 USC § 102(e) as being anticipated by Kilgariff et al. (US Patent 6,850,243).

Rejections Under 35 USC § 102(e)

Claim 1, recites the limitations of receiving a ratio value for a texture map, applying a bias to the ratio value to produce the biased ratio value, and determining a number of texture samples to filter based on the biased ratio value. Kilgariff neither teaches nor suggests these limitations.

Kilgariff discloses a method for performing texture filtering in a graphics pipeline by performing the following steps. First, in column 13, lines 13-14, a level-of-detail (LOD) unit generates a 2x2 pixel area in the texel space. Next, in column 13, lines 14-16, the LOD unit determines an LOD value and an anisotropic ratio from the S and T values (where S and T are the coordinates conventionally used for texture space, as opposed to U and V, which are used for pixel space) of the 2x2 pixel area. In column 13, lines 18-20, the LOD unit then generates scaled S and T addresses for the calculated LOD value. While such an operation adds computational burden to the graphics pipeline, using 2x2 pixel area, instead of individual pixels, to map the pixels onto the texture space may reduce this burden. Once the scaled S and T addresses are determined, in column 13, lines 21-26, Kilgariff teaches generating 2x2 neighborhoods of scaled S and T addresses (i.e., generating additional texture samples) to perform anisotropic filtering. Thus, Kilgariff discloses nothing more than an efficient way of estimating the S and T values for a given LOD value and then performing anisotropic filtering using a number of texture samples determined from the scaled S and T values. This approach is quite similar to conventional anisotropic filtering. What is new is really the way S and T values are computed.

By contrast, the present invention modifies the standard steps of anisotropic filtering. As recognized in the present application, in conventional graphics processors, anisotropic "ratio value is used to determine a number of texture samples"

(see paragraph [0021] of the specification). However, as described in paragraph [0021] of the specification, the present invention applies a bias to the anisotropic ratio value to generate a modified anisotropic ratio, referred to as a "biased ratio value." As a result of modifying the anisotropic ratio to reflect the biased ratio value, the number of texture samples used in the claimed anisotropic filtering process is different than that used during conventional anisotropic filtering.

The Examiner appears to confuse the claimed "biased ratio value" with an "LOD bias" disclosed in Kilgariff. These two bias numbers are, in fact, completely different. Importantly, while the "LOD bias" disclosed in Kilgariff is used to interpolate between two mipmaps to obtain S and T values appropriate for a certain LOD value, the "biased ratio" recited in the pending claims is used to modify the anisotropic ratio value to determine the new number of texture samples within a single mipmap to use for filtering. Therefore, Applicant respectfully submits that the Examiner is incorrect in concluding that the "bias ratio value" recited in claim 1 is the same as the "LOD bias" taught by Kilgariff.

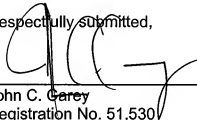
As the foregoing shows, Kilgariff fails to teach or suggest each and every limitation of claim 1 and, therefore, cannot anticipate this claim. For this reason, Applicant respectfully submits that claim 1 is in condition for allowance and requests that the 102(e) rejection be withdrawn. Claims 2-9 depend from allowable claim 1 and, therefore, are also in condition for allowance.

Furthermore, independent claims 10 and 16 reflect limitations similar to those of claim 1. For this reason, Kilgariff cannot anticipate any of these claims either. Thus, claims 10 and 16 are in condition for allowance for at least the same reasons as claim 1. Claims 11-15 and 17-20 depend from allowable claims 10 and 16, respectfully, and, therefore, are also in condition for allowance.

CONCLUSION

Based on the above remarks, Applicants believe that they have overcome all of the objections and rejections set forth in the Office Action dated February 2, 2007, having a shortened statutory period for response set to expire on May 2, 2007, and that the pending claims are in condition for allowance. If the Examiner has any questions, please contact the Applicant's undersigned representative at the number provided below.

Respectfully submitted,



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